

App. No. : 10/005,024
Filed : December 4, 2001

AMENDMENTS TO THE CLAIMS

1. - 16. (Cancelled)

17. (Currently Amended) An interconnecting structure for connecting a first circuit board and a second circuit board, comprising:

a housing having a first portion and a second portion, said first portion and said second portion defining a cavity having an opening for accommodation of the second circuit board, and a second opening, opposite said cavity opening and in connection with said cavity;

a first flexible circuit having a first plurality of connection contacts, said first flexible circuit extending through said second opening, along said cavity, and through said cavity opening and including a plurality of power connection tabs at a first end proximal to said second opening of said housing, wherein said plurality of power connection tabs are configured to connect to the power surface pads of the first circuit board; and

a second flexible circuit having a second plurality of connection contacts, said second flexible circuit extending through said second opening and along said cavity, substantially parallel to said first flexible circuit, and through said cavity opening and including a plurality of ground connection tabs at a first end proximal to said second opening of said housing, wherein said plurality of ground connection tabs are configured to connect to the ground surface pads of the first circuit board interdigitated with said power connection tabs on said first flexible circuit.

18. (Cancelled)

19. (Currently Amended) The interconnecting structure of Claim 17-18, wherein said first plurality of connection contacts are configured to provide a power signal to the second circuit board and said second plurality of connection contacts are configured to provide a ground signal to the second circuit board.

20. (Previously Presented) The interconnecting structure of Claim 17, further comprising a first compressible member disposed between said first housing portion and said first flexible circuit

21. (Previously Presented) The interconnecting structure of Claim 17, wherein said first portion and said second portion of said housing form a yolk proximal to said second

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opening such that said first flexible circuit and said second flexible circuit are in contact before entering said cavity.

22. (Previously Presented) The interconnecting structure of Claim 17, wherein at least said first plurality of connection contacts comprise a plurality of raised bump contacts.

23. (Currently Amended) ~~An interconnector structure for connection to a circuit board having a processor mounted thereon, comprising:~~

a first circuit board comprising a power conditioning circuit, and a plurality of power surface pads and a plurality of ground surface pads;

a connector housing having a first portion and a second portion, said first portion and said second portion defining a cavity having an opening for accommodation of at least a portion of the circuit board having a processor, and a second opening, opposite said cavity opening and in connection with said cavity;

a first flexible circuit having a plurality of power connection tabs coupled with said power surface pads on said first circuit board, said first flexible circuit extending from said connection with said power surface pads on said first circuit board through said second opening in said connector housing, along said cavity, and through said cavity opening; and

a second flexible circuit having a plurality of ground connection tabs coupled with said ground surface pads on said first circuit board, said second flexible circuit extending from said connection with said ground surface pads on said first circuit board through said second opening in said connector housing and along said cavity, substantially parallel to said first flexible circuit, and through said cavity opening.

24. (Previously Presented) The structure of Claim 23, wherein said power surface pads and said ground surface pads are arranged in an alternating configuration.

25. (Previously Presented) The structure of Claim 24, wherein said power connection tabs and said ground connection tabs are connected to said power surface pads and said ground surface pads in an interdigitated configuration.

26. (Previously Presented) The structure of Claim 23, further comprising a first compressible member disposed between said first portion of said connector housing and said first flexible circuit in said cavity, and a second compressible member disposed between said second portion of said connector housing and said second flexible circuit in said cavity.

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27. (Previously Presented) The interconnecting structure of Claim 23, wherein said first portion and said second portion of said connector housing form a yolk proximal to said second opening such that said first flexible circuit and said second flexible circuit are in contact before entering said cavity.

28. (Previously Presented) A circuit board interconnection system, comprising:
a connector housing having a first portion and a second portion, said first portion and said second portion defining a cavity having an opening, and a second opening, opposite said cavity opening and in connection with said cavity;

a first circuit board comprising a power conditioning element, and a plurality of power surface pads and a plurality of ground surface pads;

a processor board having a processor mounted thereon, wherein at least a portion of said processor board is disposed in said cavity of said connector housing;

a first flexible circuit comprising a plurality of power connection tabs coupled with said power surface pads on said first circuit board, and a plurality of power connection contacts configured for connection to said processor board, said first flexible circuit extending through said second opening in said connector housing, along said cavity between a first surface of said processor board and said first portion of said connector housing, and through said cavity opening; and

a second flexible circuit comprising a plurality of ground connection tabs coupled with said ground surface pads on said first circuit board, and a plurality of ground connection contacts configured for connection to said processor board, said second flexible circuit extending through said second opening in said connector housing and along said cavity between a second surface of said processor board and said second portion of said connector housing, and through said cavity opening.

29. (Previously Presented) The system of Claim 28, wherein said power connection contacts comprise a first plurality of raised contact bumps, and said ground connection contacts comprise a second plurality of raised contact bumps.

30. (Previously Presented) The system of Claim 28, wherein said first flexible circuit is wrapped around an end of said first portion of said connector housing at said cavity opening, and said second flexible circuit is wrapped around an end of said second portion of said connector housing at said cavity opening.

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31. (Previously Presented) The system of Claim 28, further comprising a first compressible member disposed between said first flexible circuit and said first portion of said connector housing in said cavity, and a second compressible member disposed between said second flexible circuit and said second portion of said connector housing in said cavity.

32. (Previously Presented) The system of Claim 28, wherein said first portion and said second portion of said connector housing form a yolk proximal to said second opening such that said first flexible circuit and said second flexible circuit are in contact before entering said cavity.

33. (Previously Presented) The system of Claim 28, wherein said power surface pads and said ground surface pads are arranged in an alternating configuration.

34. (Previously Presented) The system of Claim 33, wherein said power connection tabs and said ground connection tabs are connected to said power surface pads and said ground surface pads in an interdigitated configuration.